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OSTRACISM AND INTEREST IN EXTREME GROUPS

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ABSTRACT

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Drawing from the temporal need-threat theory of ostracism (Williams, 2009), and uncertainty-identity theory (Hogg, 2007), I tested the hypothesis that ostracism increases interest in extreme groups. In a cross-sectional survey, Study 1 showed that chronic ostracism positively predicts interest in the Westboro Baptist Church, Mormonism, Scientology, and Alcoholics Anonymous. Study 2 established causal direction; relative to included participants, ostracized participants expressed greater willingness to attend a meeting of an extreme group following a recruitment attempt. Expressing a desire to attend meetings facilitated recovery of basic need satisfaction. Ostracism also induced self-uncertainty, but this did not mediate the effect. In an attempted replication involving no interpersonal contact, Study 3 failed to show differences in group interest as a function of ostracism. Studies 1 and 2 suggest that ostracism increases vulnerability to extreme group recruitment, and Study 3's failed results suggest that prior contact with a group member is a boundary condition.

INTRODUCTION

> And he felt like a ghost… transparent… floating from seaport to seaport. People seemed to look right through him… Over the course of twelve years his flesh and soul had withered until he knew he had become transparent. (Brown, 2003, p.43)

In the novel, *The DaVinci Code*, Silas, an albino, is treated as an outcast because of his disturbing physical appearance. Following years of ostracism, he joins the fundamentalist religious organization, *Opus Dei*. As a member of Opus Dei he commits multiple murders at the command of his leaders, motivated by a commitment to their fundamentalist ideology. Could the experiences of the fictional Silas accurately reflect an actual phenomenon? The present research asks whether it is possible that when people are ostracized, like Silas, they become vulnerable to recruitment into extreme groups.

Groups vary on many dimensions ranging from number of individuals, to duration of existence, to degree of goal-directedness. The present research focuses on the dimension of extremity, which, for the purposes of the current research, is defined as the degree to which the group's beliefs, actions, and demands on members deviate from what most people would consider normal.

For example, one gun rights organization might believe that there should be few restrictions on gun ownership, write letters to politicians advocating this position, and require members to pay minimal annual dues. In comparison, a second gun rights organization might believe that there should be no restrictions on gun ownership, organize events in which people fire guns into the air in protest, and require members to pay heavy dues and commit many hours a week volunteering.

In some ways it is puzzling that people would be attracted to extreme groups, especially considering the high demands on members' time and resources. Festinger et al. (1956) explained continued commitment to such groups as a method of minimizing cognitive dissonance. This explanation is compelling, but does not explain initial attraction to extreme groups. Others have explained involvement in extreme groups, such as cults, in terms of the powerful influence techniques used by the group. These techniques include appeals from charismatic leaders, coercion, intimidation, and promises of blissful living (Curtis & Curtis, 1993). These factors are interesting and help explain attraction to extreme groups. The present research seeks to expand our understanding of interest in extreme groups beyond the persuasion techniques that are initiated by the group to also include experiences that occur prior to any recruitment attempts. Ostracism is a likely factor, present before contact with a group, which leaves individuals vulnerable to extreme group recruitment.

Gardner, Pickett and Knowles (2005) have used a food analogy to discuss ostracism, with people being motivated to engage in *social snacking* when they have been starved of social connection. Here I argue that, just as people will eat almost anything when they are hungry, they may also lower the threshold for the types of

groups they are interested in joining. Drawing from Williams's (2009) temporal need-threat model of ostracism, as well as Hogg's (2007) uncertainty-identity theory, I predicted that ostracism would increase interest in extreme groups.

The Temporal Need-Threat Model of Ostracism and Extreme Groups

According to the temporal need-threat model (Williams, 2009), ostracism is experienced in three stages. In the first, *reflexive*, stage, people detect ostracism and experience an immediate pain response coupled with threats to four basic human needs: belonging, self-esteem, control, and meaningful existence. People quickly begin to recover their basic need satisfaction in the second, *reflective*, stage as they appraise the situation and make sense out of the ostracism event. If ostracism is experienced chronically over time, individuals enter the third, *resignation*, stage in which they may suffer extremely negative outcomes such as alienation, depression, learned helplessness, and feelings of unworthiness.

If individuals are motivated to restore basic need satisfaction following an instance of ostracism, they should be temporarily more interested in extreme groups, which may be a source of belonging, self-esteem, control and meaningful existence. Likewise, if a person is experiencing chronic ostracism they should be dispositionally more open to extreme groups.

Research shows that people who are ostracized engage in behaviors that refortify need satisfaction, often by increasing the chances of affiliating with others. This has been shown in experiments where ostracism changes basic cognitive processes, such as attention and memory, in favor of better social performance. For example, people who have been ostracized are better at discriminating between sincere

and faked smiles (Bernstein, Young, Brown, Sacco, & Claypool, 2008), better at remembering social information (Gardner, Pickett, & Brewer, 2000; Pickett, Gardner, & Knowles, 2004), and better at perceiving between-category distinctions in facial expressions (Sacco, Wirth, Hugenberg, Chen, & Williams, 2011).

Beyond improving attention and memory for information relevant to inclusion, ostracism is also known to motivate behaviors that increase the likelihood of inclusion. For example, people who have been ostracized engage in more non-conscious behavioral mimicry of a conversation partner (Lakin, Chartrand, & Arkin, 2008), a behavior known to increase liking towards the mimicking individual (Chartrand & Bargh, 1999). Ostracism also increases conformity, desire to join new groups, and effort in a collective group task (Maner, DeWall, Baumeister, & Schaller, 2007; Williams, Cheung, & Choi, 2000; Williams & Sommer, 1997). More specific support for the hypothesis that ostracism will leave people vulnerable to extreme group recruitment comes from research showing that after being ostracized, individuals are more compliant in response to deliberate social influence attempts (Carter-Sowell, Chen, & Williams, 2008). Together these findings suggest a general tendency for ostracized individuals to desire and seek belonging in groups. It is plausible that ostracism will leave people vulnerable to social influence attempts from extreme groups whose actions and membership requirements would otherwise be seen as unappealing.

Compared to moderate groups, extreme groups may be especially well suited to help restore basic need satisfaction. For example, extreme groups can amplify the benefits of achieving a sense of belonging because they may be viewed as more

selective, so that when individuals are finally included, the satisfaction from belonging is more powerful. Also, by virtue of holding less common positions, extreme groups can provide individuals with a more distinct identity (Brewer, 1991), leading to an increase in self-esteem. Relative to moderate groups, those that endorse extreme courses of action to achieve desired outcomes likely offer a stronger sense of control to potential members, since a wider range of actions are considered acceptable. Likewise, these groups may be perceived as more likely to succeed and impact others, thereby offering a greater sense of meaningful existence. Because of this, I hypothesized that ostracism would increase interest in extreme groups, and that need-threat would be a possible mediating variable.

There is also indirect evidence that belonging to extreme groups leads to feelings of superiority, which may be beneficial in restoring satisfaction of basic needs, especially self-esteem. Toner, Leary, Asher, and Jongman-Sereno (2013) found that political extremism predicts the belief that one's political views are superior to the views of others. Importantly, this was true for both liberals and conservatives. Because feeling superior necessarily entails positive feeling towards the self, this suggests that identification with extreme groups is an effective method of restoring feelings of self-esteem.

Uncertainty-Identity Theory and Extreme Groups

According to uncertainty-identity theory, people join and identify with groups to reduce self-uncertainty (Hogg, 2007). This theory holds that extreme groups are particularly effective in reducing self-uncertainty. For the purposes of the proposed research, self-uncertainty is conceptualized broadly as feelings of anxiety or ambiguity

regarding one's actions or identity. The experience of uncertainty is aversive because it renders the world less predictable, and disrupts abilities to plan actions, avoid harm, and know whom to trust. Identifying with a group is thought to be an effective method of reducing self-uncertainty because identification depersonalizes the individual by placing them in a social category with stereotypical characteristics and fellow members. Groups provide a prototype that can inform the individual about the appropriate thoughts, feelings, and actions in an otherwise uncertain situation. Belonging to social categories clarifies the way one should behave and provides numerous others to look to for information about the world (Hogg, 2007). However, not all groups are equally effective at reducing uncertainty. Groups high in entitativity should be more effective at reducing uncertainty. Entitativity refers to the extent to which groups have clear boundaries, internal homogeneity, frequent social interaction, clear structure, common goals, and common fate (Hamilton & Sherman, 1996). Groups characterized by clear behavioral prescriptions and boundaries are theorized to be more effective in reducing uncertainty relative to less entitative groups (Hogg, 2004).

There is evidence to support the claim that uncertainty motivates identification with highly entitative groups. Hogg and colleagues (2007) showed that participants primed with self-uncertainty (by writing about aspects of their life that made them feel uncertain about themselves and their future) increased identification with their political party (in Study 1) and their temporary lab group (in Study 2). Importantly, this effect was strongest for participants who considered the groups to be highly entitative. Subsequent research has shown that, relative to unprimed individuals, those primed to

feel uncertain perceive their in-group as more entitative (Sherman, Hogg, & Maitner, 2009).

It is plausible that extreme groups tend to be more entitative on average. Groups that are extreme are likely to have closed boundaries, and stress internal homogeneity (Hogg, 2004). To the extent that extreme groups are seen as entitative they should be particularly attractive to individuals motivated to reduce self-uncertainty. However, entitativity and extremity are conceptually orthogonal. For example, it is easy to imagine an accounting firm that has clear boundaries, internal homogeneity, and frequent social interaction, but it would be a mistake to characterize the firm as extreme. Hogg, Meehan, and colleagues (2010) argue that extreme groups have characteristics beyond entitativity that make them attractive to individuals who are experiencing self-uncertainty.

Extreme groups can be highly attractive to individuals experiencing uncertainty because of their strong ideological foundations. Hogg, Adelman, et al. (2010) observe that strong ideology provides confidence in the group's actions and beliefs, discourages dissent and criticism from members, and provides certainty in a world that seems increasingly unpredictable. Consistent with this reasoning, Hogg, Meehan, et al. (2010) found evidence that uncertainty increased identification with a radical student organization that was protesting an unpopular tuition reform measure relative to a similar, but moderate, organization. To the extent that extreme groups are uniquely effective in restoring certainty, they should be particularly attractive to individuals who are feeling uncertain about themselves after being ostracized. Further, attraction to

groups should be greater for ostracized individuals who view the group as extreme or entitative.

Based on this reasoning, if ostracism triggers uncertainty, it should also increase interest in joining extreme groups. There are good reasons to expect ostracism to induce self-uncertainty. Theories of ostracism emphasize that it is an inherently ambiguous experience because it often occurs without warning or explanation (Williams, 2001). Ostracism also increases feelings that life is meaningless, and reduces feelings of control and competence (Jones, Carter-Sowell, Kelly, & Williams, 2009; Twenge, Catanese, & Baumeister, 2003; Williams, 2009). Ambiguity, meaninglessness, lack of control, and incompetence are important components of uncertainty. Thus, I hypothesized that ostracism would induce immediate feelings of self-uncertainty, which are reduced as basic need satisfaction is restored following ostracism. Feelings of self-uncertainty are an interesting and currently unexplored outcome of ostracism. They are also important in the context of the present research because they are hypothesized to mediate the relationship between ostracism and interest in extreme groups.

Overview of Research

Across three studies I tested the hypothesis that ostracism increases interest in extreme groups. Study 1 was an exploratory correlational study meant to (1) verify that chronic ostracism experiences correlate positively with interest in joining extreme groups and (2) investigate whether this relationship is moderated by the perceived extremity or entitativity of the group. Study 2 experimentally manipulated ostracism to clarify the causal relationship between ostracism and interest in extreme groups. After

being included or ignored in an online ball-tossing game (Cyberball; Williams, Cheung, & Choi, 2000), individuals were asked to complete a survey by a confederate ostensibly representing a campus group that engages in extreme actions. I tested need-threat and self-uncertainty as variables mediating the causal relationship between ostracism and interest in joining the extreme group. I also tested expressed interest in the group as a variable mediating recovery of basic need satisfaction following ostracism. Finally, in Study 3, I sought to replicate this effect in a more minimalistic laboratory setting, and to compare the effects of ostracism on interest in moderate and extreme groups.

STUDY 1

Method

Participants

One hundred and five students (73 males) volunteered to complete an online questionnaire for partial credit in an introductory psychology course. Participants' average age was 19.83 years (*SD* = 1.40). The sample was 68.6% Christian, 21.6% Atheist or Agnostic, and 9.8% other religions.

Procedure

Participants were asked to report their level of chronic ostracism and make a number of ratings regarding each of twelve groups, presented in random order. The twelve groups were (a) the Boy Scouts of America, (b) the National Association for the Advancement of Colored People (NAACP), (c) The Church of Jesus Christ of Latter-Day Saints (Mormons), (d) National Rifle Association, (e) Purdue Campus Democrats, (f) Crossfit, (g) Purdue Alumni Association, (h) Scientology, (i) U.S. Congress, (j) Alcoholics Anonymous, (k) West Lafayette Police Department, and (l) The Westboro Baptist Church. These groups were intended to represent a wide range of extremity. Three groups were selected in particular because of their extreme beliefs, actions, and requirements of members: Mormonism, Scientology, and the Westboro Baptist Church.

Measures

Chronic ostracism was measured with the Ostracism Experiences Scale, an eight-item scale assessing individual differences in being ignored and excluded (e.g., "In general, others leave me out of their group"; Carter-Sowell, 2010; $\alpha = .93$). Ratings were made on a scale from 1 (hardly ever) to 5 (almost always).

Interest in groups. Interest in joining the groups was assessed by asking participants the extent to which they would like to join the group (e.g., "I would like to join the Boy Scouts of America"), and the extent to which they would consider joining the group (e.g., "I would consider joining the Boy Scouts of America"). In each case they rated their agreement with the statements on a scale from 1 (completely disagree) to 5 (completely agree). For each group these items were averaged to form an index of interest in joining (correlations ranged from .67 to .93).

Perceived extremity of groups. Participants reported perceived extremity of each group by rating their agreement with the three items, "I think [group] has extreme views", "I think [group] engages in extreme actions", and "I think [group] has extreme requirements of its members." (Cronbach's α ranged from .59 to .94, Mean $\alpha = .79$).

Perceived entitativity of groups. Perceived entitativity of each group was measured with three items used previously by Spencer-Rodgers, Hamilton, and Sherman (2007); "In your view, how cohesive are the members of [group]?", "How important do you think [group] is to its members?", "How much unity do you think the members of [group] feel?" Responses were made on a scale from 1 (not at all/no unity) to 5 (extremely/complete unity). Items were averaged to form an entitativity score for

each group (Cronbach's α ranged from .63 to .84, Mean α = .77). Finally, for each group, participants were asked to indicate whether they had heard of that group before that day.

Results

Chronic Ostracism and Interest in Joining Extreme Groups

A correlation coefficient between chronic ostracism and interest in joining a group was calculated individually for each group, including only individuals who indicated that they had heard of the group prior to that day (see Table 1). Chronic ostracism was significantly positively correlated with desire to join Alcoholics Anonymous, $r(86) = .45$, $p < .001$, Mormonism, $r(89) = .45$, $p < .001$, Scientology $r(67) = .26$, $p = .03$, and the Westboro Baptist Church $r(63) = .25$, $p = .05$.[1] Additionally, the correlations between ostracism and desire to join the groups were positive for all but four groups, and not significantly negative for any of the groups.

In order verify that Mormonism, Scientology, The Westboro Baptist Church, and Alcoholics Anonymous are more extreme than the remaining groups (i.e., the groups for which interest in joining was not significantly correlated with chronic ostracism), the extremity ratings of these four groups were averaged together, and compared to the average of the extremity ratings of the remaining eight groups. The groups for which interest in joining was predicted by chronic ostracism ($M = 3.11$, $SD = .60$) were rated as more extreme than the other eight groups ($M = 2.69$, $SD = .50$), $t(104) = 6.43$, $p < .001$.

[1]When all 105 participants are included all four correlations are either equivalent or larger, and positive.

Gender, Extremity, and Entitativity

A series of follow up analyses were conducted on the four groups for which the relationship between chronic ostracism and interest in joining was large enough to be statistically detected. For each group, gender, perceived extremity, and perceived entitativity were tested as moderators in multiple regression analyses predicting interest in joining the group from chronic ostracism, the moderating variable, and interaction term (the product of the two predictor variables).

Gender. The relationship between chronic ostracism and interest in joining the Westboro Baptist Church was qualified by an interaction with gender, $b = -.89$, $t(59) = -2.09$, $p = .04$, $\eta_p^2 = .06$, such that chronic ostracism predicted desire to join the Westboro Baptist Church for males, $b = .59$, $t(43) = 2.82$, $p = .006$, but not for females, $b = -.29$, $t(16) = -.79$, $p = .43$. This was the only significant effect for gender (all bs < .33, *ns*).[2]

Extremity. The relationship between chronic ostracism and interest in joining Mormonism and Alcoholics Anonymous depended on the perceived extremity of the group. Interaction tests revealed that high perceived extremity reduced the relationship between ostracism and desire to join Mormonism, $b = -.20$, $t(87) = -1.99$, $p = .05$, $\eta_p^2 = .03$, but increased the relationship between ostracism and desire to join Alcoholics Anonymous, $b = .39$, $t(84) = -3.13$, $p = .002$, $\eta_p^2 = .07$. Extremity did not interact with chronic ostracism in predicting desire to join the Westboro Baptist Church, $b = .19$, $t(59) = 1.56$, $p = .12$, $\eta_p^2 = .03$, or Scientology, $b = -.05$, $t(65) = -.38$, $p = .71$, $\eta_p^2 < .01$.

[2]This was the only significant gender effect in all three studies, so gender is not discussed further.

Entitativity. The relationship between chronic ostracism and interest in joining Mormonism is weaker the more entitative people perceive Mormonism to be, $b = -.37$, $t(87) = -3.60$, $p < .001$, $\eta_p^2 = .10$, and stronger the more entitative people think the Westboro Baptist Church to be, $b = .54$, $t(59) = 2.59$, $p = .01$, $\eta_p^2 = .10$. Entitativity did not interact with chronic ostracism in predicting desire to join Alcoholics Anonymous, $b = .18$, $t(84) = 1.03$, $p = .31$, $\eta_p^2 < .01$, or Scientology, $b = .11$, $t(65) = .52$, $p = .61$, $\eta_p^2 < .01$.

Discussion

Study 1 serves as an initial demonstration that chronic ostracism is related to interest in joining extreme groups. In particular, ostracized individuals reported greater interest in joining The Westboro Baptist Church, The Mormon Church, and Scientology: three groups that are known for their atypical beliefs, actions and expectations of members.

An unexpected relationship was also observed between ostracism and desire to join Alcoholics Anonymous. There are at least two possible explanations for this relationship. First, chronically ostracized people may drink more alcohol, leading to a greater interest in an organization whose purpose is to combat problematic drinking. Though this explanation is compelling, it is inconsistent with large scale survey data that I have observed, finding only a weak (albeit significant) relationship between ostracism experiences and problematic drinking, $r(786) = .07$, $p = .04$ (Hales, 2013). The second explanation is consistent with my initial theorizing; ostracism motivates individuals to restore basic need satisfaction, and Alcoholics Anonymous is a group characterized by unconditional acceptance, and thus an appealing source of belonging.

The finding that chronic ostracism is only associated with interest in the Westboro Baptist Church in males, but not females, may be due to perceptions that the Westboro Baptist Church, known for disruptively picketing American soldiers' funerals, is a hostile and aggressive group. This type of group may appeal more to ostracized males than ostracized females.

Consistent with my theorizing, the relationship between chronic ostracism and desire to join Alcoholics Anonymous was stronger in people who perceived Alcoholics Anonymous as extreme. Similarly, chronic ostracism was an even stronger predictor of desire to join the Westboro Baptist Church in individuals who perceived the organization as highly entitatative.

However, the opposite patterns were observed with regards to Mormonism, possibly because of unique stereotypes of Mormons as a group that engages in aggressive recruitment techniques. Perhaps ostracized individuals who perceived Mormons as more extreme and entitatative viewed the Church not as a group authentically interested in including them, but rather as a mega-sized institution only interested in claiming members in order to meet quotas.

Study 1 serves as a highly suggestive initial demonstration of the relationship between chronic ostracism and interest in joining extreme groups. However, it is ambiguous in two ways. First, as a correlational study, it does not allow strong causal inferences to be made. For example, it is plausible that causation is operating in the opposite direction than hypothesized; individuals who are attracted to extreme groups may have characteristics that make them aversive to others and thus they experience ostracism more frequently. Second, Study 1 included interest in a wide range of groups

as dependent variables. Because each group differed from every other group on a number of dimensions (both measured and unmeasured), it is difficult to draw conclusions about why interest in some groups is predicted by chronic ostracism, but interest in other groups is not. Study 2 addresses these concerns by (1) experimentally manipulating ostracism, and (2) using interest in a single novel extreme group as a dependent variable. Additionally, Study 2 tests whether the effect of ostracism on interest in extreme groups is moderated by dispositional need to belong and other personality variables. It also tests whether ostracism induces self-uncertainty, which is tested along with need-threat and affect as a potential mediator between ostracism and interest in extreme groups. Finally, Study 2 tests whether expressing interest in extreme groups facilitates recovery from ostracism.

STUDY 2

Method

Participants and Design

Fifty-one introductory psychology students reported to the laboratory to complete a study ostensibly interested in the effects of mental visualization and how people work in pairs to solve problems. They were randomly assigned to be ostracized (n = 28) or included (n = 23). Three participants were familiar with the ostracism manipulation, and one expressed suspicion of the confederate, leaving 47 participants in the final analysis (22 males, M_{Age} = 19.02, SD = 1.19).[3]

Procedure

Participants arrived at the laboratory at the same time as a male confederate and were informed that they would first engage in a short getting-acquainted task. According to the cover story, participants were to spend ten minutes chatting and getting to know each other so that the experiment would be a more realistic representation of real-life work relationships in which people who work together are already acquainted. Before leaving the pair together to get acquainted, the experimenter gave them a list of ten questions to help guide their conversation. The eighth question asked, "Are you involved in any campus groups?" The confederate took this

[3]The pattern of significant results is identical when these four cases are included.

opportunity to share that he is involved in the group *PARTI: Purdue students Advocating Reducing Tuition Immediately*. The confederate explained that the *PARTI* was in the middle of a recruitment drive and offered to tell the participant more about the group. All participants agreed to hear more. The confederate went on to say:

> "Our group believes that the cost of tuition has become outrageously high, and we are committed to doing whatever it takes to reduce tuition. The current administration has placed a freeze on tuition, but we believe that this is not enough.
>
> So we do things like blockade campus with loud rallies, organize lecture walkouts, and we even disrupt classes in protest.[4]
>
> Beyond just fighting to lower tuition, we are also a very welcoming community that meets for fun social events. We usually meet two or three times a week, and people often hang out outside of formal meetings. Everyone is welcome in our club. We always start the semester with an ice cream social so we can all get to know each other. It is really a good time."

This description of the group was purposefully crafted to present the group as one that would be likely to fortify threatened need satisfaction (i.e., the group is welcoming and social).

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[4]These three acts were pretested and found to be the most extreme out of a list of 16 acts that a campus group could engage in to promote its message (e.g., submitting letters to the newspaper, making phone calls to students, distributing pamphlets, etc.).

Following the get-acquainted period, the experimenter returned and asked participants to engage in an online mental visualization exercise, Cyberball. It was made clear that participants were not playing each other. Before starting the game, the experimenter explained that he/she needed to make copies of the forms needed to complete the working in pairs task, and that he/she would not return until several minutes after the mental visualization exercise ends. Participants were told that they were free to "chat or kill time however you want after you finish the questions following the game." This aspect of the cover story created an opportunity for the confederate to collect measures of interest in the *PARTI*.

After the experimenter left the room, ostensibly to go make copies, participants played Cyberball, in which they were randomly assigned to be either included or ostracized (Williams et al., 2000). Cyberball was played with two virtual confederates that were programmed to either include the participant fairly (included condition), or to throw the participant the ball twice in the beginning of the game, but ignore them thereafter (ostracized condition). The game lasted 30 throws (approximately two minutes). The participant and confederate played Cyberball at adjacent computers separated by a divider such that they could not see each other's screens. Immediately following Cyberball, participants completed the manipulation check, and measures of reflexive need satisfaction, positive affect, negative affect, and self-uncertainty.

After the participant completed these measures, and before the experimenter returned, the confederate reminded the participant that PARTI was doing a recruitment drive, and asked the participant to complete a short survey asking about their

perceptions of PARTI based on the confederate's description. All participants agreed to complete the survey.

Finally, the experimenter returned and informed the participants that he/she was unable to find the forms needed to complete the working in pairs task. The experimenter then asked participants to complete a final set of questions assessing reflective need satisfaction, positive affect, negative affect, and self-uncertainty as well as individual differences in the need to belong, and the big five personality traits. After these measures were completed the experimenter returned and conducted a thorough debriefing, probing participants for suspicion and explaining the true nature of the study.

Measures

The Cyberball manipulation was checked by asking participants to rate agreement with the following two statements: "During the game I was ignored" and "During the game I was excluded." They were also asked to estimate the percentage of throws they received during the game.

Responses to ostracism. Immediately following Cyberball participants completed a questionnaire designed to assess need satisfaction, positive affect, negative affect, and self-uncertainty experienced during the game, as potential mediators of the effect of ostracism on interest in the extreme group. These measures were intended to assess reflexive responses to ostracism. Need satisfaction was measured with 12 items assessing the four basic needs: belonging (e.g., "I felt like an outsider", reverse scored), self-esteem (e.g., "I felt good about myself"), control (e.g., "I felt I had control"), and meaningful existence (e.g., "I felt invisible", reverse scored). These 12 items were

averaged to form a composite need satisfaction index (α = .96). Positive and negative affect was measured by asking participants to rate how much they felt each of eight adjectives during the game (positive affect: good, friendly, pleasant, and happy; α = .91; negative affect: bad, unfriendly, angry, and sad; α = .89).

Participants also reported the amount of self-uncertainty experienced during the game by responding to six items developed to assess how uncertain participants felt about their actions and identity (see Appendix B; α = .85). Responses on all items were made on a scale from 1 (not at all) to 5 (extremely).

Following the waiting period, during which participants completed the interest in extreme group survey, participants responded again to the same set of questions measuring need satisfaction, positive and negative affect, and self-uncertainty, only this time they responded in reference to how they felt at that moment (all αs > .82). This reflective measure was taken to be able to examine whether expressing interest in an extreme group facilitates recovery.

Interest in extreme group. Interest in the group was assessed with a half-page survey that the confederate asked the participant to complete before the experimenter returned. The survey had six questions and displayed a PARTI logo at the top. The first question asked, “Right now do you feel like you would enjoy being a member of PARTI?” The second question asked, “How willing would you be to come to a meeting?” For both questions participants were to write in a number between 1 (not at all) and 10 (very much). The next two questions asked whether the group representative (confederate) made the group’s (a) position and (b) intended actions

clear (yes/no). These questions were included to bolster the cover story that the confederate was interested in determining how others perceive the group. All participants responded "yes" to both questions. Participants were also asked to report how extreme they think the group is from 1 (not at all) to 10 (very much). The final question served as a behavioral measure of interest in joining the group and read "Can we contact you?," followed by a line to write their email address.

Individual differences. Participants reported their need to belong with the ten-item need to belong scale (e.g., "It bothers me a great deal when I am not included in other people's plans."; $\alpha = .72$; Leary, Kelly, & Schreindorfer, 2001). They also completed the Big Five Inventory (John, Donahue, & Kentle, 1991), which measures agreeableness, neuroticism, conscientiousness, openness, and extraversion (all αs > .74).

Results

Manipulation Checks

Ostracized participants reported being more ignored ($M = 4.50$, $SD = .95$) and excluded ($M = 4.50$, $SD = 1.00$) than included participants ($M = 1.63$, $SD = .79$, and $M = 1.81$, $SD = 1.00$, respectively), $t(45) = -11.31$, $p < .001$, $d = 3.29$ and $t(45) = -9.09$, $p < .001$, $d = 2.69$. Ostracized participants also reported receiving a smaller percentage of ball tosses ($M = 6.15$, $SD = 3.39$) than included participants ($M = 34.89$, $SD = 10.70$), $t(45) = 11.56$, $p < .001$, $d = 3.62$.

Responses to Ostracism

Responses to ostracism were analyzed with a series of 2 (inclusion status: ostracized v. included) x 2 (stage: immediate v. delayed) mixed model analyses of variance, with stage as a within subjects factor. Replicating previous research (Zadro, Boland, & Richardson, 2004), there was a main effect of inclusion status on need satisfaction, $F(1, 45) = 34.40$, $p < .001$, $\eta_p^2 = .43$, positive affect, $F(1, 45) = 7.79$, $p = .008$, $\eta_p^2 = .15$, and negative affect $F(1, 45) = 20.60$, $p = .006$, $\eta_p^2 = .31$. The interaction between inclusion status and time of measurement was also significant for needs satisfaction, $F(1, 45) = 31.30$, $p < .001$, $\eta_p^2 = .41$, positive affect, $F(1, 45) = 16.83$, $p < .001$, $\eta_p^2 = .27$, and negative affect, $F(1, 45) = 8.23$, $p = .006$, $\eta_p^2 = .16$, indicating that ostracized participants improved more between measurements than included participants.

Consistent with my hypothesis, ostracized participants felt more uncertain during the game ($M = 2.75$, $SD = 1.24$) than included participants ($M = 2.01$, $SD = .65$), $t(45) = -2.67$, $p = .01$, $d = .75$. Ostracized participants recovered their certainty by the time the reflective measure was taken $t(45) = -.45$, $p = .65$, $d = .13$. Inclusion status interacted with stage of recovery, indicating that ostracized participants showed a greater decrease in self-uncertainty than included participants, $F(1, 45) = 6.33$, $p = .02$, $\eta_p^2 = .12$.

Interest in Extreme Groups

Ostracized participants' reports of how much they would enjoy being a member of PARTI ($M = 5.65$, $SD = 1.79$) were not significantly greater than included participants ($M = 5.30$, $SD = 1.75$), $t(45) = -.68$, $p = .50$, $d = .20$. However, ostracized

participants did report a greater willingness to attend a meeting (M = 6.00, SD = 2.07) than included participants (M = 4.63, SD = 2.02), $t(45) = -2.27$, $p = .03$, $d = .67$ (see Figure 1). Additionally, ostracized participants rated PARTI as less extreme (M = 4.74, SD = 1.88) than included participants (M = 6.22, SD = 2.39), $t(44) = 2.26$, $p = .03$, $d = -.69$. Participants were not significantly more likely to provide their email address to be contacted (80.00%) than included participants (70.37%), χ^2 (N = 45) = .56, $p = .45$.

Mediators of ostracism's effect on interest in extreme groups. To test which, if any, variables can best account for the effect of ostracism on interest in attending a PARTI meeting, I ran a multiple mediation model (Preacher & Hayes, 2008) in which inclusion status was used to predict reflexive ratings of need satisfaction, positive affect, negative affect, uncertainty, and perceptions of extremity as variables mediating the effect on recovered need satisfaction (see Figure 2). Consistent with the analyses reported previously, all five paths were significant. All five mediating variables were significantly affected by ostracism, but none predicted willingness to attend a meeting. The total indirect effect was not significant, with the 95% confidence interval based on 5000 bootstrapping samples including zero (indirect effect = -1.19, SE = 1.02, 95% Bias Corrected CI [-3.41, .83]).

Expressed group interest as a mediator of need satisfaction recovery. The same procedure was used to test whether expressing interest in attending an extreme group meeting mediates the effect of inclusion status on need satisfaction recovery (see Figure 3). Ostracism increased willingness to attend a meeting, which predicted higher need satisfaction in the reflective stage, $b = .18$, $t(45) = 3.60$, $p < .001$. The indirect effect was significant, with the 95% confidence interval based on 5000 bootstrapping

samples not including zero (indirect effect = -.24, *SE* = .13, 95% Bias Corrected CI [.05, .60]).

Individual difference moderators. Before testing moderators I verified that need to belong and the big five factors were not influenced by the ostracism manipulation, since that preceded the measurement of these individual differences. Ostracism did not affect agreeableness, $t(43) = .78$, $p = .44$, $d = .23$, openness, $t(43) = -.53$, $p = .61$, $d = -.16$, extraversion, $t(43) = .54$, $p = .60$, $d = .16$, neuroticism, $t(43) = -.72$, $p = .47$, $d = -.21$, or need to belong, $t(43) = -.44$, $p = .67$, $d = -.16$. Ostracism marginally increased reports of conscientiousness, $t(43) = 1.78$, $p = .08$, $d = .53$.

The effect of ostracism on willingness to attend a meeting did not appear to be moderated by gender, $F(1, 45) = .57$, $p = .46$, $\eta_p^2 = .01$. However, there was a marginally significant moderation by need to belong, $t(43) = -1.87$, $p = .07$, $\eta_p^2 = .07$, such that ostracism increased interest in attending a meeting for people who are low in need to belong, $b = 2.70.30$, $t(43) = 3.19$, $p = .003$, but not for those who are high in need to belong, $b = .48$, $t(43) = .58$, $p = .56$ (simple slopes represent the effect of ostracism at one standard deviation above and below the need to belong mean). Similarly, inclusion status interacted with agreeableness, $b = -2.57$, $t(43) = -2.80$, $p = .007$, $\eta_p^2 = .14$, such that ostracism increased willingness to attend a meeting for those who are low in agreeableness, $b = 3.19$, $t(43) = 3.99$, $p < .001$, but not those who are high in agreeableness, $b = -.02$, $t(43) = -.02$, $p = .98$. Inclusion status did not interact with openness, $b = -.27$, $t(43) = -.26$, $p = .80$, $\eta_p^2 < .01$, extraversion, $b = .09$, $t(43) = .10$, $p = .91$, $\eta_p^2 < .01$, neuroticism, $b = .13$, $t(43) = .15$, $p = .88$, $\eta_p^2 < .01$ or conscientiousness, $b = .13$, $t(43) = .11$, $p = .91$, $\eta_p^2 < .01$.

Discussion

These findings support the hypothesis that ostracism increases interest in extreme groups. Ostracism did not cause participants to feel that they would enjoy being a member of the group more, but it did make them more willing to attend a meeting. Being willing to attend a meeting represents an attempt at investigation, an important first step in a sequence of socialization stages (Moreland & Levine, 1982).

Unexpectedly, being ostracized caused participants to perceive the group as less extreme. Importantly, mediation analyses showed that reports of extremity do not explain the effect of ostracism on interest in attending an extreme group meeting. Although it was not predicted, this finding is consistent with previous work showing that ostracism, in the service of facilitating interaction with potential sources of affiliation, causes people to exaggerate differences between social categories while minimizing differences within social categories (Sacco et al., 2011).

This study is also the first reported in the published literature to demonstrate that ostracism induces a temporary state of self-uncertainty. This uncertainty does not appear to mediate the effect of ostracism on interest in an extreme group. Likewise, despite hypothesizing to the contrary, threatened need satisfaction did not mediate the relationship. Further, the effect could not be explained by increases in positive affect or decreases in negative affect. The process whereby ostracism increases interest in extreme groups remains unknown.

Consistent with the temporal need-threat model of ostracism, expressing willingness to attend an extreme group meeting facilitated recovery of basic need satisfaction. Combined with the failure to detect mediation by basic need satisfaction,

these findings raise the possibility that ostracism causes a force other than need-threat to motivate individuals to express interest in joining an extreme group. However, despite the process currently being unknown, expressing interest in joining an extreme group nevertheless aids recovery.

Finally, the effect of ostracism on interest in an extreme group was qualified by an unexpected individual difference: agreeableness. Ostracism generated interest in extreme groups only for those who are low in agreeableness. Research has shown that people who are low in agreeableness tend to negatively evaluate most groups (Graziano, Bruce, Sheese, & Tobin, 2007). The current research suggests that this tendency may be overridden when low agreeable people are motivated to restore their basic need satisfaction.

Study 2 succeeded in creating an experimental situation high in psychological realism (Aronson, Wilson, & Akert, 2010). Participants were unaware that the confederate and the survey asking about PARTI were part of the experiment and would be seen by the experimenters. Participants had highly interpersonal and generally positive interactions with the confederate. It is possible that ostracism only initiates investigation of extreme groups following positive interactions with a member of that group. In Study 3 I sought to demonstrate the same effects in a more psychologically minimal situation, in which participants have no prior contact with a member of the extreme group. A second purpose of Study 3 was to test my hypotheses using a more automated and standardized paradigm that would allow for more efficient data collection in future studies, without the need for a confederate. The third and final purpose of Study 3 was to overcome a limitation of Study 2 by experimentally

manipulating group extremity to test whether ostracism increases interest in extreme groups more than it increases interest in moderate groups, as predicted by uncertainty-identity theory.

STUDY 3

Method

Participants

One hundred and fifty-one introductory psychology students participated for partial course credit (57 males, M_{Age} = 19.27, SD = 1.84).

Design

Each participant was assigned to one of four conditions in a 2 (inclusion status: included vs. ostracized) x 2 (group type: moderate vs. extreme) between subjects experiment.

Procedure

Participants were recruited to engage in a laboratory study ostensibly focused on mental visualization as well as student interest in various campus groups. Participants first played Cyberball, during which they were either ostracized or included. Immediately following the game they completed the same ostracism manipulation checks used in Study 2. Next they were asked to rate reflexive need-threat (α = .94), positive affect (α = .92), negative affect (α = .87), and self-uncertainty (α = .85), also with the same items used in Study 2.

After completing these measures participants were presented with a description of what they were told was a real campus group at Purdue. The description displayed

the group's logo and presented the same basic information that the confederate shared in Study 2 regarding the group's purpose and goals. Participants in the extreme group condition read that the group spreads its message by holding events blockading campus, organizing lecture walkouts, and loudly disrupting class. Participants in the moderate group condition read that the group spreads its message by writing letters, distributing pamphlets, and submitting letters to the school newspaper[5]. All other information was identical between groups. At the bottom of the webpage describing the group, participants read "we would love for you to join our group. If you are interested in learning more about us and joining us for our events and get-togethers, simply provide your email address below and we will get in touch with you." Whether participants provided an email address was recorded as a behavioral measure of interest in the group.

After reading this description participants were asked to rate their agreement with eight items assessing interest in the group (see Appendix C; $\alpha = .88$). They also reported how extreme they perceived the group's (1) beliefs, (2) actions, and (3) requirements of members. These three items were averaged to form a group extremity manipulation check ($\alpha = .72$). Next, as in Study 2, participants indicated their reflective need satisfaction, positive affect, negative affect, and self-uncertainty. They were then thanked and debriefed.

[5]Pilot testing verified that people consider the actions in the extreme group to be more extreme than those in the moderate group condition $t(104) = 16.17$, $p < .001$, $d = 2.42$.

Results

Manipulation Checks

Ostracized participants reported being more ignored ($M = 4.51$, $SD = .93$) and excluded ($M = 4.46$, $SD = .92$) than included participants ($M = 2.03$, $SD = 1.12$, and $M = 2.05$, $SD = 1.18$, respectively), smaller $t(149) = -14.82$, $p < .001$. Ostracized participants also reported receiving a smaller percentage of ball tosses ($M = 7.76$, $SD = 4.53$) than included participants ($M = 31.83$, $SD = 11.28$), $t(149) = 17.07$, $p < .001$.

Similarly, participants in the extreme group condition rated the extreme group as more extreme ($M = 3.34$, $SD = 1.02$) than those in the moderate group condition ($M = 2.58$, $SD = .79$), $F(1, 147) = 25.90$, $p < .001$. Perceptions of extremity were not moderated by inclusion status, $F(1, 147) = .08$, $p = .78$.

Responses to Ostracism

A 2 (stage: reflexive v. reflective) x (inclusion status: ostracized v. included) mixed analyses of variance, with stage as a within-subjects factor, revealed main effects of ostracism on needs satisfaction, $F(1, 149) = 88.14$, $p < .001$, $\eta_p^2 = .37$, positive affect, $F(1, 149) = 35.06$, $p < .001$, $\eta_p^2 = .19$, negative affect, $F(1, 149) = 58.71$, $p < .001$, $\eta_p^2 = .28$, and self-uncertainty, $F(1, 149) = 16.13$, $p < .001$, $\eta_p^2 = .09$. Also, as indicated by significant interactions between inclusion status and stage of recovery, participants showed significant recovery on needs satisfaction, $F(1, 149) = 172.06$, $p < .001$, $\eta_p^2 = .54$, positive affect, $F(1, 149) = 70.40$, $p < .001$, $\eta_p^2 = .32$, negative affect, $F(1, 149) = 76.94$, $p < .001$, $\eta_p^2 = .34$, and self-uncertainty, $F(1, 149) = 49.35$, $p < .001$, $\eta_p^2 = .25$. Recovery was not moderated by group condition for needs satisfaction, $F(1, 147) = 2.32$, $p = .13$, $\eta_p^2 = .02$, positive affect, $F(1, 147) = .24$, $p =$

.63, η_p^2 = .002, negative affect, $F(1, 147) = .06$, $p = .81$, $\eta_p^2 < .001$, and self-uncertainty, $F(1, 147) = 1.02$, $p = .32$, $\eta_p^2 = .007$.

Interest in Group

A 2 (inclusion status: included v. ostracized) x 2 (group type: moderate v. extreme) analysis of variance on interest in the group revealed no main effect for group type, $F(1, 147) = 2.30$, $p = .13$, $\eta_p^2 = .15$, or inclusion status, $F(1, 147) = .40$, $p = .53$, $\eta_p^2 = .003$. Additionally, group type did not interact with inclusion status, $F(1, 147) = .03$, $p = .86$, $\eta_p^2 < .001$ (see Figure 4). Similarly, ostracized participants (16.21%) were not more likely to volunteer their email address than included participants (19.48%), $\chi^2 (1, N = 151) = .27$, $p = .60$. This was true both for the moderate group, $\chi^2 (1, N = 74) = .17$, $p = .68$, and the extreme group, $\chi^2 (1, N = 77) = .15$, $p = .70$.

Discussion

The results of Study 3 are inconsistent with both my hypotheses and Study 2. Further, these results are inconsistent with previous research in which those who were socially excluded (by being led to believe that they would be alone for the rest of their life) were more likely to choose to work with others than to work alone (Maner et al., 2007; Study 2). In a minimalistic laboratory setting, without prior contact with a group member, ostracism did not increase participants' interest in joining either an extreme group, or a moderate group. Aside from limited statistical power[6], there are at least two explanations for why no effects were detected.

[6]A power analysis based on the size of the effect of ostracism on interest in attending a meeting in Study 2 ($d = .67$) revealed a power of .98 for detecting a main effect of ostracism given the sample size in Study 3.

First, as mentioned earlier, prior positive contact with a group member is a possible boundary condition of the effect of ostracism on interest in extreme groups. After successfully engaging in a discussion with the group representative, participants in Study 2 may have extrapolated from that experience and concluded that the group itself would also be a promising source of inclusion. In contrast, ostracized participants in Study 3, despite reading that the group considers itself to be welcoming to new members, had no direct contact with group members, and thus may have maintained reservations about both the nature of the group and the likelihood of inclusion.

Second, it is likely that participants in Study 3 had recovered substantially more than participants in Study 2 at the time of measurement. In Study 2 participants reported interest in the extreme group immediately after completing the measures asking about their experience in Cyberball. They had learned about the group prior to the ostracism experience, and reported on their interest in joining immediately following Cyberball. In contrast, participants in Study 3 did not learn about the group until they read the description after completing the measures assessing how they felt during the game. According to the temporal need-threat model of ostracism, recovery begins immediately after ostracism is detected, and research has shown that distraction is a particularly effective coping strategy (Hales, Wesselmann, & Williams, 2013; Wesselmann, Ren, Swim, & Williams, 2013). The description of the group was five paragraphs long, and may have been sufficiently distracting to accelerate recovery, so that by the time participants reported their interest in the group, they had already largely recovered basic need satisfaction. Consistent with this explanation, previous demonstrations of the effect of uncertainty on identification with extreme groups

introduced the participants to the group before the uncertainty manipulation was applied (Hogg, Meehan, et al., 2010).

Importantly, Study 3 successfully replicated the finding from Study 2 that ostracism induces temporary self-uncertainty. Even though self-uncertainty does not appear to mediate the effect of ostracism on interest in extreme groups, it is itself a newly discovered meaningful negative outcome of ostracism.

GENERAL DISCUSSION

This research presents evidence that ostracism increases interest in joining extreme groups. In Study 1, chronically ostracized individuals were more interested in joining Mormonism, Scientology, the Westboro Baptist Church, and Alcoholics Anonymous. In Study 2 ostracism caused people to be more interested in attending meetings of an extreme group, which in turn led to greater recovery of basic need satisfaction. These findings are consistent with predictions of the temporal need-threat model of ostracism (Williams, 2009), and self-uncertainty theory (Hogg, 2007).

This research has many important implications. Ostracism research has identified negative consequences of being ignored and excluded ranging from threatened basic needs and feelings of pain to aggression and hostility. The present research expands this list to include vulnerability to extreme group recruitment. The possibility that ostracism can leave people vulnerable to questionable groups has been theoretically predicted (Wesselmann & Williams, 2010), but not empirically demonstrated until now. Previous research has shown that ostracism increases the desire to affiliate and join groups (Maner et al., 2007), but the current research is the first to show that this desire extends to groups that are extreme in nature, and possibly untrustworthy in their intent. It appears ostracism does not just make people interested in affiliating with benevolent groups, but also with groups that can be harmful to others

(such as the Westboro Baptist Church), or groups that take advantage of their members (such as Scientology, which has been known to require heavy fees to advance within the group; Reitman, 2011).

A second noteworthy contribution of this research is the finding that ostracism undermines individuals' self-certainty. Although this uncertainty did not lead to interest in joining extreme groups, it is itself a meaningful negative outcome of ostracism that could potentially lead to other maladaptive behaviors to reaffirm one's sense of identity.

This research also raises the possibility that a negatively perpetuating cycle exists in which ostracism drives people to join extreme groups, and once in the extreme group, meet further ostracism by non-members of the group, which in turn, could motivate deeper identification with the extreme group. The correlations between ostracism and interest in extreme groups that were identified in Study 1 may be partially explained by a general reluctance, from the perspective of sources of ostracism, to include people who belong to extreme groups. This currently untested hypothesis, if true, would suggest that ostracism experiences may ignite a cyclical decline into the depths of dubious groups.

Limitations

Although Study 3 failed to replicate the findings from Study 2, and interpretations of null results should be given cautiously (Greenwald, 1975), we may nevertheless speculate that there are theoretically interesting inferences from the observation that ostracism does not increase interest in extreme groups in a situation in which (1) there is no prior contact with a member of the group, and/or (2) all

information about the group is learned in the time between the ostracism event and the opportunity to express interest in the group. These two potential boundary conditions suggest that the effect under study is highly interpersonal in nature, and strongest immediately following the ostracism experience. This is consistent with the temporal need threat model of ostracism, which predicts that recovery from ostracism begins immediately, and may even be completed quickly for relatively minor ostracism episodes such as Cyberball.

A second, related, limitation of this research is that, because of the null effects in Study 3, no comparison can be drawn between the relative effects of ostracism on interest in moderate versus extreme groups. It remains to be tested whether, in keeping with self-uncertainty theory, ostracism increases attraction to extreme groups more relative to moderate groups.

Future Directions

Future research should examine the generality and boundary conditions for extreme group preferences. Group extremity should be amplified to determine whether the preference wanes once the groups become too extreme or too fringe. If one is ostracized, then joining a group that is likely to be similarly ostracized seems ineffective in the long run for restoring threatened needs. In Studies 2 and 3, I chose the fictional group, *Purdue students Advocating Reducing Tuition Immediately*, as a group whose mission is widely appealing to college students; namely that tuition should be reduced. What sets it apart from other, moderate groups, is the actions that they engage in to achieve this end. Indeed, pilot testing and manipulation checks revealed that people considered both the group and its actions to be extreme. However,

compared to real-life extreme groups, such as those examined in Study 1, PARTI is somewhat mild. Is it possible that one ostracism experience is sufficient to temporarily increase the interest in joining a gang, or willingness to meet with Mormon missionaries? By testing such possibilities future research will assess the strength and robustness of the effect of ostracism on interest in extreme groups.

Additionally, future research may consider a more theoretically nuanced approach to the concept of extremity as it relates to groups. In the present research extreme groups were defined as those that have extreme beliefs, actions, or requirements of members. In Studies 2 and 3 it was operationalized as a group with extreme actions. Future research may consider whether ostracism also increases interest in groups with extreme beliefs (e.g., that tuition should be *increased*), or extreme requirements of members (e.g., embarrassing initiation rituals). Or, future research may identify entirely separate dimensions in which groups may be extreme and test the effects of ostracism on groups that are extreme in other ways.

Similarly, many of the groups considered in this research were both extreme *and* anti-social. It is possible that ostracism, which is known to provoke aggression, may increase interest in any group with anti-social motives, regardless of how extreme that group is. Future research is necessary to disentangle group extremity from group valence. This may be a difficult endeavor, as many people believe that extreme actions, even in the service of prosocial intentions, are themselves negative. In other words, perceptions of group valence (good v. bad) may be naturally confounded with perceptions of group extremity.

Finally, other processes whereby ostracism increases interest in extreme groups remain untested. Future research should test mechanisms other than threat to basic need satisfaction and self-uncertainty. For example, ostracized individuals may experience anger or psychological reactance that expresses itself through a desire to join groups that are anti-social or extreme.

Conclusion

It is well known that ostracism is a painful experience that interferes with the fundamental need to belong. This research shows that ostracism also leads to the maladaptive response of considering membership in groups that would otherwise be eschewed. These findings imply that the desire for social connection following ostracism may be indiscriminately applied, leading to involvement in extreme groups. The insight that ostracism leads to group membership helps explain the success and popularity of groups that appear to make heavy demands on members. It seems that like Silas, who, after enduring years of ostracism, found himself in a group asking him to commit murder, people who are ostracized are open to membership in extreme groups.

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APPENDICES

Appendix A: Table and Figures

Table 1

Correlations Between Chronic Ostracism and Desire to Join Groups in Study 1

	r	N	Interest	Extremity	Entitativity
Alcoholics Anonymous	.45***	88	1.63 (.95)	2.34 (1.04)	3.54 (.82)
Mormon Church	.45***	91	1.40 (.71)	3.41 (.96)	3.67 (.86)
Scientology	.26*	69	1.44 (.89)	3.65 (.99)	3.53 (.82)
Westboro Baptist Church	.25*	63	1.63 (.99)	3.81 (1.29)	3.76 (.74)
Purdue Campus Democrats	.18	45	2.28 (1.32)	2.69 (.79)	3.49 (.75)
Boy Scouts of America	.16	95	2.26 (1.17)	2.31 (.98)	3.77 (.76)
National Rifle Association	.08	86	2.85 (1.39)	2.72 (.84)	3.61 (.76)
West Lafayette Police Department	.07	95	1.96 (1.12)	2.91 (.91)	3.77 (.78)
CrossFit	-.02	52	3.70 (.95)	2.80 (.76)	3.51 (.72)
NAACP	-.01	71	2.05 (.89)	2.58 (.85)	3.69 (.71)
U.S. Congress	-.01	97	2.57 (1.34)	3.30 (.79)	3.31 (.81)
Purdue Alumni Association	-.16	88	3.80 (.97)	2.06 (.86)	3.72 (.73)

Note. Standard deviations are in parentheses.

* $p \leq .05$, *** $p \leq .001$.

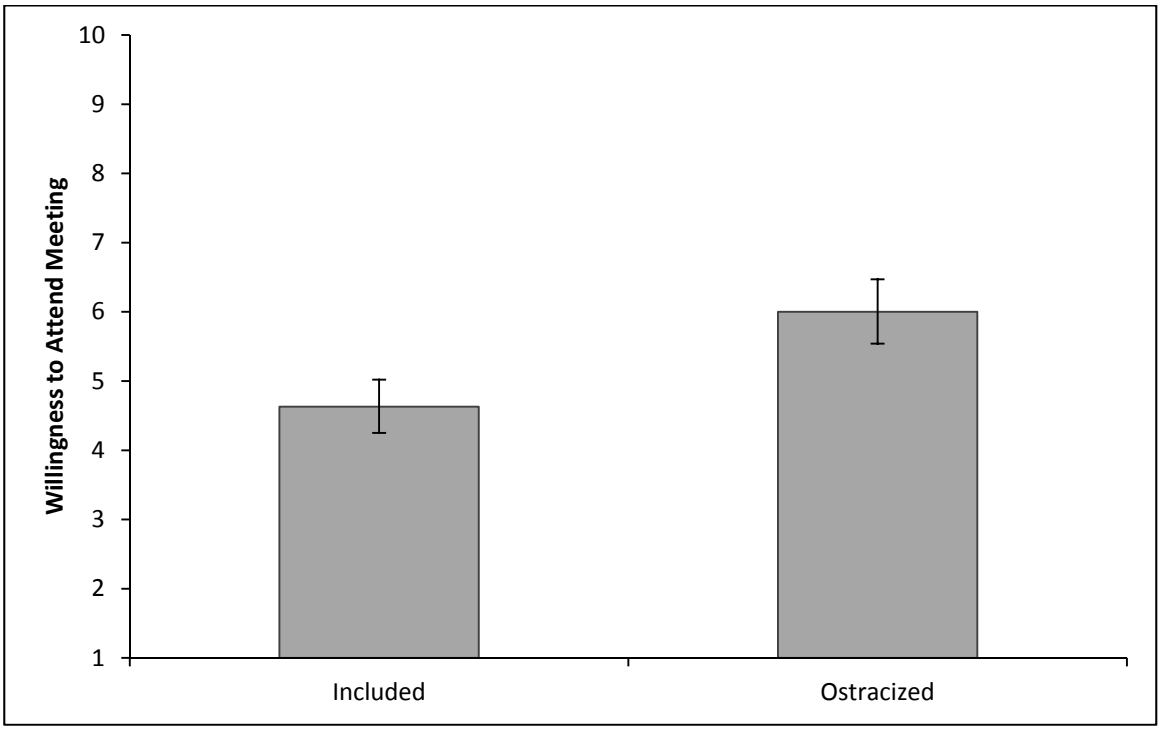

Figure 1. The effect of ostracism on willingness to attend an extreme group meeting in Study 2. Error bars represent ± 1 *SE*.

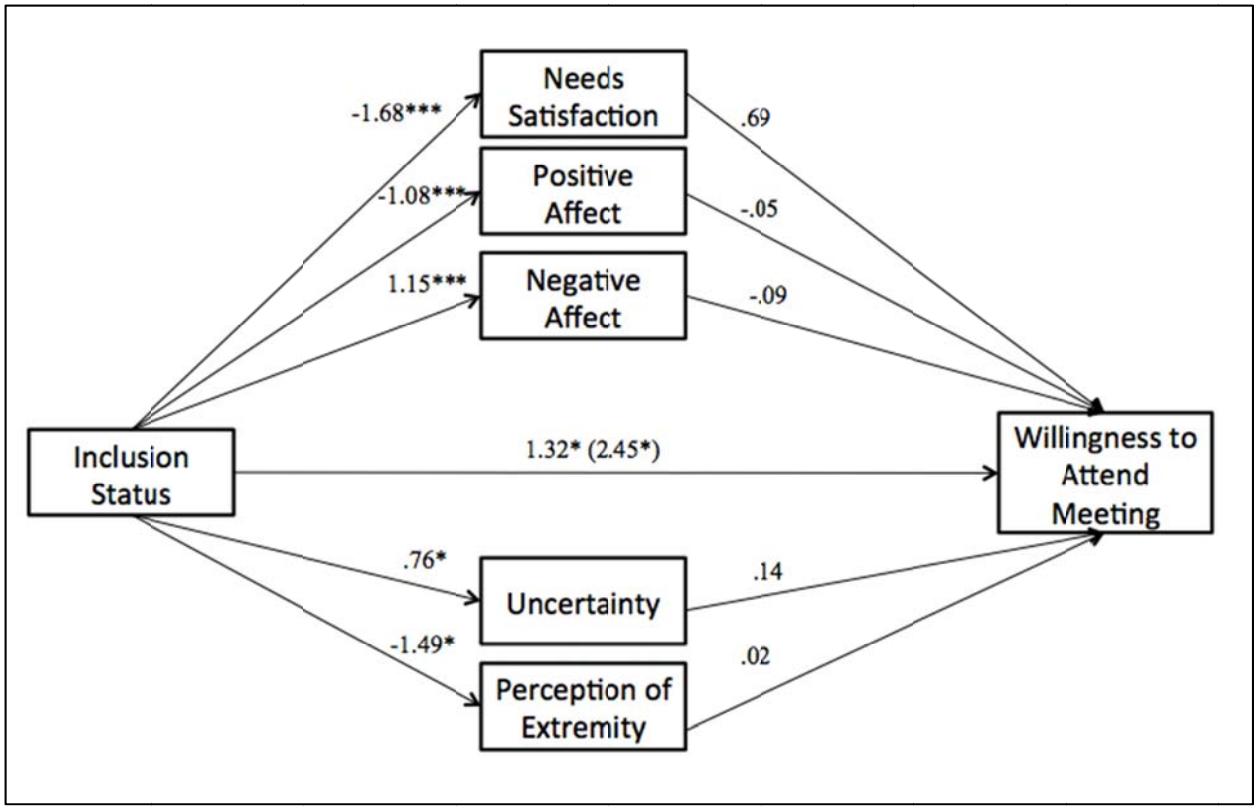

Figure 2. Multiple mediation model testing the indirect effects of ostracism on willingness to attend an extreme group meeting in Study 2. The coefficient in parentheses represents the direct effect of inclusion status on willingness to attend a meeting. The adjacent coefficient represents the effect when the mediators are added to the model.

* $p \leq .05$, *** $p \leq .001$.

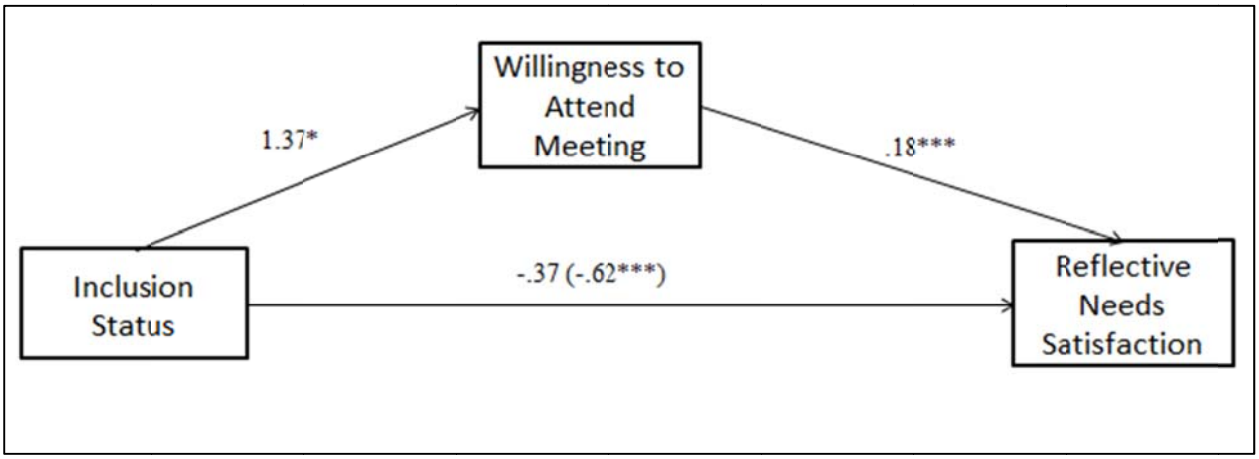

Figure 3. The role of willingness to attend an extreme group meeting in mediating the effect of ostracism on reflective need satisfaction in Study 2. The coefficient in parentheses represents the direct effect of inclusion status on reflective need satisfaction. The adjacent coefficient represents the effect when the mediators are added to the model.

* $p \leq .05$, *** $p \leq .001$.

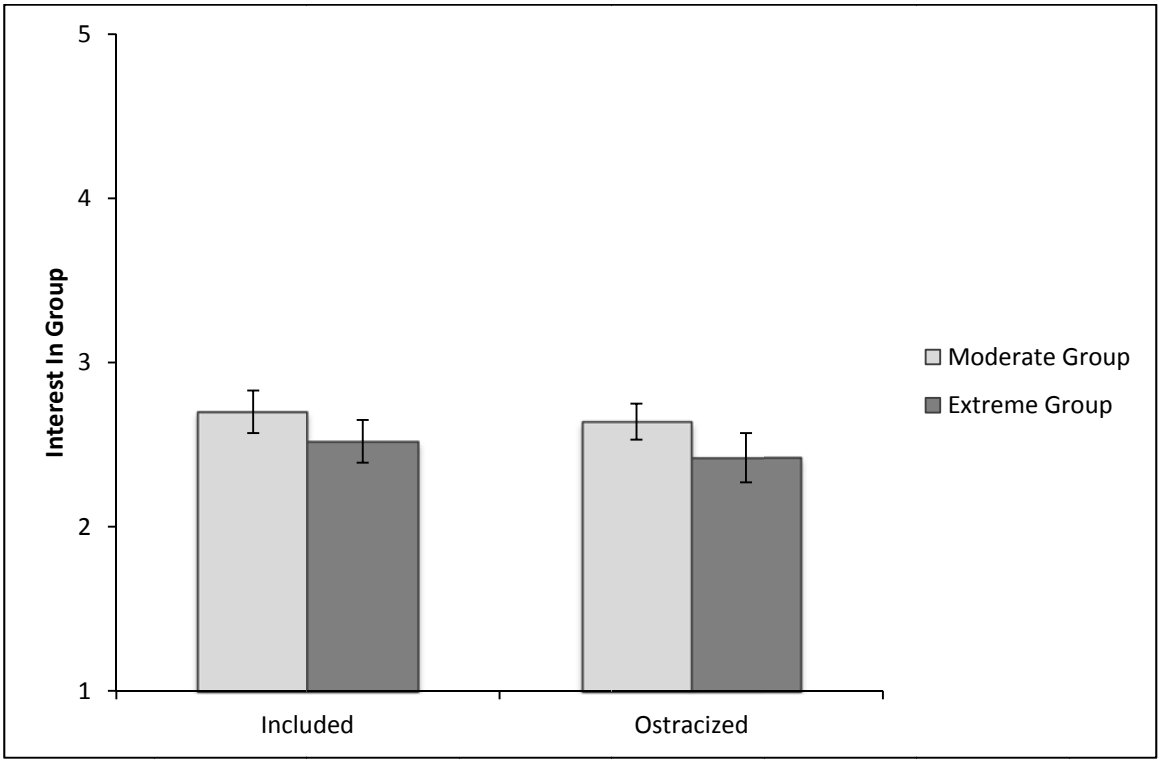

Figure 4. The effect of ostracism and group extremity on interest in the group in Study 3. Error bars represent ±1 *SE*.

Appendix B: Reflexive Self-Uncertainty Scale

Item:
I did not know what I should be doing
I felt uncertain about myself
I felt confident about who I am (r)
I was certain about what to do (r)
I felt unsure of what makes me who I am
I felt unsure about what to do with myself

Note. When measuring reflective self-uncertainty, question wording is changed to present-tense. $\alpha = .85$

Appendix C: Group Interest Scale

Item:
Right now I would consider joining PARTI
I could enjoy being a member of PARTI right now
I would consider spending time with members of PARTI
I would never want to join PARTI (r)
Right now I would feel better if I were in PARTI
Right now I would find it unpleasant to be in PARTI (r)
Right now being in PARTI would make me feel important
Right now being in PARTI would make me feel like I belong

Note. $\alpha = .85$